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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/531,757	04/14/2005	Thierry Sicard	SC12366ET	2223
23125 7590 08/24/2007 FREESCALE SEMICONDUCTOR, INC. LAW DEPARTMENT 7700 WEST PARMER LANE MD:TX32/PL02 AUSTIN, TX 78729			EXAMINER LAM, TUAN THIEU	
			ART UNIT 2816	PAPER NUMBER
			MAIL DATE 08/24/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/531,757

Applicant(s)

SICARD, THIERRY

Examiner

Tuan T. Lam

Art Unit

2816

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 July 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 and 3-16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1, 3-7 and 11-15 is/are allowed.
- 6) ☒ Claim(s) 8-10 and 16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

This is a response to the amendment filed 7/19/2007. Claims 1 and 3-16 are under examination.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 8-10 and 16 are rejected under 35 U.S.C. 102(b) as being anticipated by Umemoto (USP 6,448,752).

Figure 1 shows a transmitter for a controlled shape switched signal (output of transistor Q) on a communication line (electrical wire connected to the transistor Q) comprising signal generator means including capacitor means (Ca), and signal producing means (Q) responsive to a capacitor voltage (voltage at node 131) across said capacitor means for applying said switched signal to said line, and charging means (2-5) responsive to an input signal (VIN) for supplying a charging current (I in 4) to said capacitor means so as to define an edge of said switched signal, characterized in that said charging means comprises feedback loop means responsive to said capacitor voltage for generating a feedback current (current along collector emitter path of transistor Q8) having a continuous magnitude that is progressive function of said capacitor voltage (the feedback current provides a continuous current when the switch Q8 is on, switch Q8 is responsive to the capacitor voltage via comparators 3a, 3b and RS flip flop 3c), said charging current being a function of said feedback current (the current I changes when Q8 is on, thus,

Art Unit: 2816

charging current I is function of the feedback current) so that the range of change of said capacitor voltage is a continuous function of time (the rate of change of the capacitor voltage at node 131 is $V_o = 1/C_a \int I dt$ which is a continuous function), wherein said charging means comprises resistive element (transistor Q8 inherently has resistance quantity) for receiving a voltage that is a function of said capacitor voltage (via the comparator 3a, 3b and 3c) for generating a feedback current as called for in claim 8.

Regarding claim 9, the output of the RS flip flop 3c turns the transistor Q8 on/off, thus, modifying the rate of change of said feedback current and said charging current.

Regarding claims 10 and 16, the capacitor voltage varies substantially as a sinusoidal half cycle having a single frequency to define said edge of said switched signal (the capacitor voltage $V_o = 1/C_a \int I dt$ varies as a sinusoidal wave with half cycle determined by the charging current, the sinusoidal wave has a frequency defined the edge of said switched signal).

Allowable Subject Matter

3. Claims 1, 3-7 and 11-15 are presently allowed.

Conclusion

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. In this regard, applicant's cited prior art have been carefully considered.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tuan T. Lam whose telephone number is 571-272-1744. The examiner can normally be reached on Monday to Friday (7:30 am to 6:00pm).

Art Unit: 2816

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, TIMOTHY P. CALLAHAN can be reached on 571-272-1740. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Tuan T Lam
Primary Examiner
Art Unit 2816

8/20/2007

Approved
T. Law 8/20/07

IN THE ABSTRACT:

A-~~The~~ transmitter (4) ~~for a controlled shape switched signal on a communication line (1) comprises a signal generator including a capacitor (19) producing the switched signal to be applied to the line. The capacitor is charged by a charging current (I_e) in response to an input signal (TX) so as to define an edge of the switched signal. The charging means (24, 25) comprises through a feedback loop responsive to the capacitor voltage (V_O) for generating a feedback current (I_E) having a continuous magnitude that is a progressive function of the capacitor voltage, the charging current (I_e) being a function of the feedback current (I_E). Resistors (R ; R_1 , R_2) define an RC circuit with the capacitor (19) enabling the time constant of the feedback current to be controlled. Preferably, the The feedback loop generates first and second feedback voltages (V_H , V_L) one of which is a rising function of the capacitor voltage (V_O) and the other is a falling function of the capacitor voltage (V_O). The feedback current (I_E) is generated first as a function of one of the feedback voltages (V_H , V_L) and subsequently as a function of the other of the feedback voltages, so that the rate of change of the feedback current (I_E) increases with time while the one of the feedback voltages is selected and decreases with time while the other of the feedback voltages is selected.~~

~~Preferably, the rate of change of the feedback current (I_E) is a function of the capacitor voltage (V_O) such that the capacitor voltage varies substantially as an exponential function of time, at least for a part of the edge of the switched signal (40, 42, 44, 46) and may be a linear function of time for another part (41, 43, 45) so as to approximate closely a sinusoidal half cycle with few harmonics.~~